

Remarks

Claims 1, 2, 4, 6-8, 10, 13-21 and 23-25 were pending.

Claims 1 and 25 are amended.

Claims 7, 8, 19, 20, 23 and 24 are cancelled.

Claims 2, 6, 10, 13-18 and 21 are as previously presented.

The application now contains claims 1, 2, 4, 6, 10, 13-18, 21 and 25.

Claim 1 is amended to delete the term "diallyl dialkyl ammonium halides and" from line 5, delete the term "and/or" in the eighth line following formula I and insert in its stead the word "and", to delete the word "cationic" in eighth line following formula II, correct the spelling of "particles" in that same line and to delete the proviso at the end of the claim as all the polymers of instantly amended claim 1 are co-polymers. Support is inherent in the claim.

Claim 25 is amended to place a period at the end of the claim.

No new matter is added.

Rejections

Claim 1 and dependent claims are rejected under 35 USC 112 second paragraph for lack of antecedence for the word "cationic" which is now deleted by the instant amendments. The spelling of "particles" is also corrected. Applicants respectfully submit that the 35 USC 112 second paragraph rejections are addressed and are overcome and kindly ask that they be withdrawn.

Claims 1, 2, 4, 6, 10, 13-18, 21 and 25 are rejected under 35 USC 103(a) as being obvious over Biggin et. al., US 5,114,600 or Schulman et al., US 6,451,756 or DE 101 16 491.

Applicants respectfully traverse the rejections.

Biggin discloses a fabric softener composition comprising a polymer prepared from a cationic monomer, acrylamide and 5-45 ppm of a crosslinker and a particle size of less than 10 microns. Applicants respectfully point to the explicit teaching on column 3 lines 28-30 of Biggin "The cationic polymer must be added while in the form of particles below 10 micrometers in size, and preferably below 2 micrometers in size".

The Examiner states that although the ranges of the instant polymers do not overlap with Biggin, they abut the ranges of Biggin and one would therefore expect similar performance. However, Applicants respectfully note that the instant polymers differ from Biggin in two important aspects, i.e., the instant polymers 1) contain less crosslinking than Biggin and 2) have a larger particle size than Biggin. Given that both of these parameters differ, in one case at the low end of the range and in the other case at the higher end of the range, Applicants submit that the expectation of similar performance is not obvious.

Further, as noted above, Biggin explicitly teaches away from using particles larger than 10 micrometers. Applicants suggest that perhaps there is something about the instant polymers, perhaps the lower level of crosslinker that allows the instant polymers to be effective at larger particle sizes than that of Biggin. Nonetheless, there is nothing in Biggin that would direct one to the instantly claimed formulations or the polymers used in the instant claims or formulations.

Applicants therefore respectfully submit that in light of the disclosure of Biggin, the artisan would either not prepare the larger particles of the invention or could not expect success and that the impressive data shown in the instant examples constitute surprising results.

Schulman discloses a polymer for a soil release composition which may contain acrylamide. Applicants note that the polymer of Schulman (formula 1 col. 2 of Schulman) is not the polymer of the instant invention. The polymers of Schulman are prepared by polymerizing two or more of monomers A, B or C, wherein monomer A is an unsaturated carboxylic acid; monomer B is selected from certain alkyl or ethoxylated unsaturated esters and C can be any ethylenically unsaturated monomer. Thus Schulman must contain one of either acid A or alkyl or ethoxylated ester B, neither of which are found in instant claim 1. Applicants further note that the polymer of Schulman must contain at least some of monomer B.

The instant invention is formed by polymerizing specific ammonium substituted unsaturated esters and specific unsaturated amides derivative.

Applicants respectfully submit that as Schulman specifically teaches that an acid A or ester B must be present, the practitioner would necessarily conclude that these monomers are responsible for activity, especially in light of the fact that monomer C, the only monomer which overlaps any of the monomers of claim 1, can almost any monomer.

Further, in order to arrive at the instant invention, the practitioner would have to polymerize two specific, different monomers from the list of possible monomers C. Applicants submit that there is no guidance in Schulman to do this and that Schulman specifically teaches against this.

DE 101 16 491 discloses a composition containing a dimethyldiallylammonium chloride / acrylamide co-polymer. The instant amendments delete diallyl dialkyl ammonium halides from the monomers of Formula I and thus remove the polymer of DE 101 16 491.

Also, neither DE 101 16 491 nor Schulman offer any guidance regarding particle size. The Examiner states that optimizing particle size would be an obvious part of the practitioner's routine efforts. Applicants respectfully point out that the particle size is known to be a very important parameter in performance in the instant formulation, and while some experimentation is expected in order to fully optimize the formulations, there is no guidance in DE 101 16 491 or Schulman to try either less than 5 ppm crosslinker or polymers with the instant particle sizes, let alone a polymer encompassing both features. Further, in light of the teaching of Biggins above that a particle size of less than 10 microns is essential, Applicants aver that the art teaches the practitioner away from the instant invention and without specific guidance otherwise from either DE 101 16 491 nor Schulman, there is no motivation to try the polymers of the instant formulations with any expectation of success.

Particle size aside, neither Schulman nor DE 101 16 491 disclose the use of a polymer prepared from the reaction of monomers of formula I and II and crosslinkers as in instantly amended claim 1.

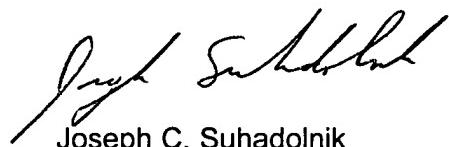
In light of the above amendments and discussion, Applicants respectfully aver that Biggin is the only cited reference that might disclose a formulation using polymers prepared from the reaction of the monomers of instant formula I and II and crosslinkers, and as Biggin discloses a larger amount of crosslinker and specifically teaches against the larger polymer particle size of the instant invention, the practitioner is not directed to the formulations of the instantly amended claims by any single cited disclosure or even by the disclosures taken together.

Applicants therefore respectfully submit that the present rejections of claims 1, 2, 4, 6, 10, 13-18, 21 and 25 under 35 USC 103(a) over Biggin et. al., US 5,114,600 or Schulman et al., US 6,451,756 or DE 101 16 491 are addressed and are overcome and kindly ask that the rejections be withdrawn.

Applicants further respectfully submit that all rejections are addressed and are overcome and kindly ask that all rejections be withdrawn and that claims 1, 2, 4, 6, 10, 13-18, 21 and 25, be found allowable.

In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

Respectfully submitted,



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